ERT
A RESOURCE ENGINEERING COMPANY
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environmental and engineering excellence

March 16, 1988

Barbara Newman
Region I
United States Environmental Protection Agency
JFK Federal Building
Boston, MA 02203

RE: UniFirst Corporation, Woburn, MA

Dear Barbara:

This letter describes the objectives and means of performing an additional deeper-bedrock aquifer test at the UniFirst Corporation site in Woburn, MA. This additional aquifer test will further the understanding of the hydraulics of the deeper-bedrock aquifer in the site area. This proposed scope of work is based on the findings of the shallow bedrock aquifer test performed by pumping well UC8 and the initial deeper-bedrock aquifer test performed by pumping well UC22.

OBJECTIVE

In order to further our understanding of the potential for effective source-control remedial action to remove and contain compounds dissolved in the ground water at the site, it is necessary to further investigate the hydraulic characteristics of the deeper-bedrock in the site area. These data, together with the data derived from the shallow-bedrock aquifer test and the initial deeper-bedrock aquifer test, will provide some of the information necessary for the evaluation of the potential for ground-water recovery wells and a treatment system for possible source-control remedial action.

DESCRIPTION OF THE WORK

The additional deeper-bedrock aquifer test will be carried out in well UC15. This well is a six-inch diameter well located at the southwest corner of the UniFirst property. It is currently drilled to a total depth of 79 feet into bedrock. Prior to pumping, UC15 will be deepened to a depth that will allow us to determine whether there is a direct hydraulic connection from well UC22 across the site to well UC15. The final depth of well UC15 will be the depth at which a zone is encountered that is capable of producing a flow of several gallons per minute and demonstrates a direct hydraulic connection with UC22, or a maximum depth of approximately 215 feet below ground surface. This maximum depth

is equivalent to the bottom elevation of UC22 and the zone in which artesian flow was encountered in UC21.

Because concentrations of tetrochlorethene were detected in well UC15, the deepening of this well will proceed in an incremental manner. The well will be advanced 50 feet in each shift. At the end of the shift, the well will be sampled and the sample of ground water will be analyzed overnight by EPA method 601 or a similiar GC/FID technique for the presence of chlorinated volatile organic compounds.

After sampling the well, the water level in UC15 will be given time to stabilize and then UC22 will be pumped at 20 gallons per minute for a period of approximately one hour in order to evaluate the degree of hydraulic connection between UC22 and UC15. In addition, UC15 will be probed with an electric sounder each morning to determine if there is any evidence of free product in the well. Should the concentration of total volatile organics exceed 50,000 micrograms per liter or should the electric sounder shut of at the bottom of the well, the drilling will be terminated at that depth as a precautionary measure.

Well UC15 will be deepened in the same manner as the other shallow-bedrock observation wells (UC15 through UC20 and UC22) were drilled. That is, D. L. Maher Co. of North Reading, MA will drill the remainder of UC15 using a Barber Company, Limited drill rig that collects the cuttings and discharges them in a controlled manner through a cyclone. These cuttings will be collected by Franklin Pumping Service, Inc. of Wentham, MA and loaded into a sealed roll-off container. The cuttings will be monitored in the field with an HNu, and a sample of the cuttings will be analyzed in the laboratory for volatile organic hazardous substance list compounds. Ultimate disposal methods for the cuttings will be determined by the analytical results. If no organic compounds are detected in the cuttings, they will be disposed of on site as common fill.

Ground water discharged with the cuttings from well UC15 during drilling will be collected with the cuttings in a sealed roll-off container. This water will be pumped from the roll-off container and transported with the water pumped from UC22 (as described in the following paragraph) to either the CECOS waste water treatment facility in Bristol, Connecticut or DuPont's Chambers Works in Deepwater, New Jersey for treatment and disposal. Franklin Pumping service will provide all handling and transportation services.

Upon achieving the terminal depth of the extended well (UC15), well UC22 will be pumped and the reaction at well UC15 and a selected array of bedrock wells will be monitored. It is estimated that the duration of pumping will be 12 hours. The data collected in this manner will allow assessment of the hydraulic

connection between well UC22 and well UC15. It is currently anticipated that the wells to be measured for drawdown will be monitored either by installations of transducers, air line readings from Solinst devices and manual measurements from open borings. Measurements from these wells will be taken on varying schedules, depending upon the method of measurement available. The transducer systems will measure ground-water levels continuously, the Solinst devices and manual measurements will be taken approximately on an hourly basis.

The pumping rate from well UC22 will be 20 gallons per minute. In order to minimize the potential for adverse ground-water gradient effects at adjacent sites, the performance measures detailed in Jack Guswa's letter of February 25, 1988, to Jeffrey T. Lawson will be observed for the proposed additional deeper-bedrock aquifer test.

SCHEDULE

ERT currently proposed to initiate drilling at UC15 on or about March 22, 1988. The pumping of well UC15 will take place as soon as practical after finishing drilling well UC15.

Should you have any questions regarding the proposed work, please do not hesitate to call me.

Sincerely,

Timothy M. Cosgrave
Hydrogeologist

Jeffrey T. Lawson, P.G.
Senior Program Manager

JTL/wlp

cc: Gretchen Muench, Esq. (EPA)
David Lang (EPA)
David Delaney (EPA)
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Gary Augustyn, (UniFirst)
Jonathan R. Bridge (GeoTrans)

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Department/Floor No.:

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City: CONCORD State: MA

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2 To (Recipient's Name) Please Print: David Delaney

Recipient's Phone Number (Very Important): ( )

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